FOREWORD

Earth sciences have already had a great success at the start up of the project TÁMOP-4.2.1/B-09/1/KONV-2010-0005 (Creating the Center of Excellence at the University of Szeged). In the last decades there were only a few possibilities in professional ratings that geosciences were taken equal to highly appriciated sciences like biology or chemistry. In 2010 based on the submitted research plans the decision makers of the Faculty of Science and Informatics at the University of Szeged admitted this equality in the allocation of research funds. Many thanks for that!

In my opinion, the success was based on two pillars, among many other important factors. On one hand, all fields of geosciences, completed by ecology, could be integrated in one research topic. On the other hand, climate change is a current field of research and the ongoing investigations at the University of Szeged represent leading edge research in national and international aspects as well.

Our research program, implemented between 2010 and 2012 (labelled as 4.1 subtopic by the University of Szeged), was separated into 7 research units and three of them had further subtopics. Thus, the following research fields were investigated:

- Climate history research (research leader: Pál Sümegi)
- Long-term effects in the landscape (research leader: Gábor Mezősi)
- Effects of recent climate change on the landscape (research leader: János Rakonczai)
- Ecological research, landscape patterns (research leader: László Körmöczi)
- Pedological consequences of climate change (research leader: Andrea Farsang)
  a) *Alterations caused by aridity*
  b) *Alterations caused by the abundance of water*
- Recent climatic consequences of climate change (research leader: János Unger)
  a) Assessment of thermal comfort conditions in urban public places
  b) Investigation of pollen and particulate matter concentrations
  c) Investigation of water quality of lakes and species composition of forests in karst areas
- Social and economic consequences of global climate change and their management (research leader: Viktor Pál)
  a) Connections between residential mobility, migration and global climate change
  b) Protection strategies against the effects of global climate change in different urban quarters
  c) Human well-being and global climate change
  d) Transformation of recreational customs due to climate change
  e) Effect of climate change on farming and land use
  f) Losers of climate change induced difficulties, climate justice

The main results of these research are presented in this volume. (Furthermore, the researchers of the Institute of Geography and Geology were also involved in the program of the '4.4. Research of Alternative Energy' subtopic).

In the research program nearly 54 million worth of equipment was purchased, 11 researchers were employed for more than one year, 6 predoctoral scholarships were funded for 53 months and students were employed for more than a hundred months. All of these offered a great opportunity to widen the previous research and improve their quality that is attested by the list of publications at the end of this volume.